

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Connect America Fund)	WC Docket No. 10-90
)	
Universal Service Reform – Mobility Fund)	WT Docket No. 10-208
)	

COMMENTS OF MOSAIK SOLUTIONS

The Federal Communications Commission’s *Report and Order* and *Further Notice* in this proceeding reaffirmed several basic principles for universal service reform for mobile broadband, including (1) targeting funding to fill coverage gaps instead of “areas already built out by private capital” and (2) expending finite funds drawn from consumers and businesses “in the most efficient and cost effective manner” possible.¹ The Commission’s efforts in this proceeding are an important step forward in Chairman Pai’s call for the FCC to “get moving” with the second phase of the Mobility Fund.² Universal service funding should be distributed with accurate information, with as few inefficiencies and administrative burdens as possible.

But identifying exactly where and when the market could not otherwise support the deployment of advanced wireless broadband services requires exceptionally accurate, reliable and timely data about the availability of commercial wireless broadband services. And, unfortunately, the data the Commission extracts from FCC Form 477 is especially ill-suited to

¹ *Connect America Fund, Universal Service Reform – Mobility Fund*, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 2152 ¶ 15 (2017) (“*Report and Order*” or “*Further Notice*”). The Wireless Telecommunications Bureau extended the deadline for filing comments on the *Further Notice* on April 11, 2017. See *Connect America Fund; Universal Service Reform – Mobility Fund*, Public Notice, WC Docket Nos. 10-90 & 10-208, DA 17-347 (WTB Apr. 11, 2017).

² See The Hon. Ajit V. Pai, Commissioner, FCC, Remarks at The Brandery: A Digital Empowerment Agenda (Sept. 13, 2016) https://apps.fcc.gov/edocs_public/attachmatch/DOC-341210A1.pdf.

support the types of careful, prudent ordering of spending priorities the Commission will need to adopt if it hopes to maximize the benefit of financial support while minimizing the burden on the consumers and businesses that must ultimately pay the bill.

An American-owned small business, Mosaik maintains one of the largest mobile network coverage, spectrum and infrastructure databases in the world and has provided unbiased support for the telecommunications industry for 28 years. Mosaik’s telecommunications databases address spectrum, infrastructure and wireless and wired technologies. As of April 2017, Mosaik’s mobile-coverage database in the United States includes 229 networks from 93 carriers and its infrastructure database includes 370,000 assets and sites. Mosaik has also made considerable investments to augment its core network coverage database with consumer and private sensor data collection technologies that leverage end-user devices to measure customer network performance across mobile and Wi-Fi networks. Mosaik combines its considerable datasets and software assets to offer a comprehensive representation of the wireless user experience. Mosaik currently provides datasets or services to 22 of the largest 25 mobile operators in North America.

Accurate, reliable, timely data about broadband coverage and performance remains the foundation of efficient and effective universal service funding. As Senators Wicker (R-MS) and Manchin (D-WV) have explained, “coverage data that accounts for the actual consumer experience . . . is a necessary step in the effort to close the digital divide” at the heart of the USF program.³ Mosaik therefore supports the Commission’s proposal to adopt a “robust, targeted

³ See Letter from United States Senators Roger F. Wicker (R-MS) and Joe Manchin III (D-WV) to The Hon. Ajit Pai, Chairman, FCC at 1 (Apr. 12, 2017), <http://bit.ly/2p4Q1NH>; see also *Ex Parte* Letter from Rebecca Murphy Thompson, EVP & General Counsel, Competitive Carriers Association to Marlene H. Dortch, Secretary, FCC, WT Docket No. 10-208 at 2 (filed Apr. 25, 2017) (“To ensure that limited resources allocated for [MF-II] are put to their best use, the FCC

challenge process” for areas initially deemed eligible for Mobility Fund (“MF-II”) support.⁴ A nimble challenge process that does not place undue burdens on either challengers or challenged parties will minimize costs and maximize participation in MF-II.

But using Form 477 as the starting point for determining whether or not a geographic area is eligible for MF-II support will lead to poor decision making.⁵ As Mosaik has previously explained, the Form 477 mobile broadband coverage data is deeply flawed.⁶ Form 477 has no common set of radio frequency specifications and no complete set of well documented measuring methodologies that could permit reliable, consistent comparisons among networks.⁷ Moreover, the Form 477 data is consistently out-of-date. For example, the Commission released Form 477 data submitted by carriers in December 2015 nine months later, in September 2016.⁸ As Mosaik’s President, Bryan Darr, testified before the House Energy & Commerce Subcommittee on Communications & Technology, nine months is “a lifetime in this fast-moving industry.”⁹ During that nine-month period alone, Mr. Darr explained, one “national operator radically expanded the population served with its LTE network while another more established

must standardize inconsistent underlying data to present on-the-ground broadband coverage that reflects consumers’ actual mobile experiences.”).

⁴ *Further Notice* ¶ 226.

⁵ *Report and Order* ¶ 56.

⁶ *See Broadband: Deploying America’s 21st Century Infrastructure: Hearing Before the H. Subcomm. on Commcn’s & Tech. of the H. Comm. on Energy & Commerce*, 115 Cong. 3-5 (2017) (statement of Bryan Darr, President and Chief Executive Officer, Mosaik Solutions), <http://bit.ly/2p4GID0> (“*Mosaik E&C Testimony*”).

⁷ *Id.* at 3-4.

⁸ *Id.* at 4.

⁹ *Id.*

operator added thousands of square miles of rural LTE coverage.”¹⁰ As a result, relying exclusively on government-mandated data threatens to frustrate mobile broadband deployment and harm American consumers.

The Commission’s willingness to rely on Form 477 data in the first instance makes the agency’s challenge process all the more important. At the same time, costly and time-consuming evidentiary requirements for making challenges, such as requiring drive testing to support a successful challenge, would impose costly burdens on the industry without necessarily generating more reliable or consistent decisions from the Commission. The Commission has recognized that creating unduly burdensome evidentiary standards may “deter[] stakeholders from challenging even the most obviously mis-categorized areas.”¹¹

Instead of relying on a limited subset of out-of-date data drawn from mandatory information collections imposed on industry, the Commission should turn to the private-sector market. Competing private firms not only provide this information efficiently and cost effectively already, but also continue to invest in new, innovative performance measurements. Service providers in the mobile broadband measurement industry compete using an array of tools and utilities to deliver the most reliable data on commercial mobile broadband availability and performance.¹² The Commission can take advantage of the existing, robust market for mobile broadband coverage data by allowing challenging parties to submit consumer device-based data of actual speeds being provided to consumers within the challenge area developed through

¹⁰ *Id.*; see also John Gilmer, *Improving FCC Datasets & Filling the Right Coverage Gaps*, MOSAIK.COM (Oct. 24, 2016), <http://bit.ly/2kS1FqR>.

¹¹ *Further Notice* ¶ 227. The Commission is especially cognizant of the burdens an overly involved challenge process will place on smaller providers. *Id.*

¹² See *Ex Parte* Letter from Trey Hanbury, Counsel to Mosaik Solutions to Marlene H. Dortch, Secretary, FCC, WT Docket No. 10-208 at 1 (filed Feb. 17, 2017).

independent third-party measurement companies. Introducing commercially driven coverage data into the challenge process will help mitigate the staleness and rigidity of the FCC Form 477 data while allowing the agency to adjudicate challenges based on the most up-to-date, technically sophisticated information available in the market. This is consistent with the Commission's objective in creating a new Office of Economics and Data to improve what Chairman Pai has called "a key to good economics: data."¹³

The Commission should also consider the introduction of alternative datasets into the consciousness of its analytical processes. Any data the Commission considers should be relevant and authentic; however, a wealth of information about network infrastructure exists outside of FCC Form 477. The rapid development of commercially available telecommunications infrastructure information and the steady progress on increasingly reliable and statistically significant crowd-sourced measurements will avoid the analytical ossification that promises to disregard innovations in data measurement that could lead to errant or inefficient decisions. Mosaik, for example, has invested heavily into developing additional datasets on tower infrastructure, antenna locations, fiber optic availability and other critical inputs necessary to construct and operate mobile broadband networks. Expanding the focus of the Commission's data collection beyond just "coverage" can help the agency efficiently and effectively execute its public obligation to invest limited support in ways that maximize a return on investment for American consumers and businesses. Private-sector businesses – not outdated federal information collections – offer the most accurate and comprehensive information available to support the Commission's stated goals.

¹³ See The Hon. Ajit V. Pai, Chairman, FCC, Remarks at the Hudson Institute: The Importance of Economic Analysis at the FCC 4 (Apr. 5, 2017), http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0405/DOC-344248A1.pdf.

Mosaik looks forward to working with the Commission to create a streamlined challenge process that uses relevant, accurate and commercially available data to determine the areas of the country where MF-II funds are needed most.

Respectfully submitted,

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